REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed July 23, 2008. Claims 1, 3-6, 8-11, and 13-14 remain pending in the present application. Reconsideration and allowance of the application and pending claims are respectfully requested.

1. Response to Objections of Claims

Claims 3 and 4 have been objected to because they refer to a canceled claim. Accordingly, claims 3 and 4 have been amended to overcome the objections. Withdrawal of the objections is respectfully requested.

1. Response to Rejections of Claims under 35 U.S.C. §112

Claims 1, 5, 6, 8-11, and 13-14 have been rejected under 35 U.S.C. §112 as allegedly claiming material not disclosed in the specification. In particular, the Office Action states that the claims denote a "first portion" and "second portion" that are not clearly defined within the original disclosure. In response, Applicants point to page 6 which refers to "two parts" or portions of a model of an animat. The two portions correspond to a high-level brain (HLB) and a low-level brain (LLB). "The HLB of an animal is used in both the Hi-Fi Sim and the Lo-Fi Sim. The internal operation of the HLB is identical in both simulations." Page 6, lines 21-24. "Different LLB's are designed for the Hi-Fi Sim and the Lo-Fi Sim." Page 6, lines 26-27.

Therefore, the HLB may be regarded as a first portion of a model of a creature and the different LLB's may be regarded as different versions of a second portion of a model of a creature. Hence, claim language, such as "a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions: a first version for use in one of said different complexities of simulation; and a second version for use in the other of said different complexities of simulation," as recited in claim 1 is clearly supported and defined within the original disclosure. Accordingly, withdrawal of the rejections is respectfully requested.

2. Response to Rejections of Claims under 35 U.S.C. §102

Claims 1, 5, 6, 8-11, and 13-14 have been rejected under 35 U.S.C. §102(b) as being anticipated by *Perlin* (U.S. Patent No. 6,285,380). Applicants respectfully traverse this rejection.

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed subject matter must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. §102(b). In the present case, not every feature of the claimed subject matter is represented in the *Perlin* reference.

a. Claim 1

As provided in independent claim 1, Applicants claim:

> A method of simulating a creature for use in two different complexities of simulation, the method comprising:
> ***utilizing a model of the creature that comprises at least two portions:***
> ***a first portion which contains functions for use in both of said different complexities of simulation; and***
> ***a second portion comprising two alternative versions:***
> ***a first version for use in one of said different complexities of simulation; and***
> ***a second version for use in the other of said different complexities of simulation,***
> ***wherein said first portion comprises a behavior selection mechanism arranged to select the behavior of said creature and said second portion is arranged to execute the selected behavior.***

(Emphasis added).

Applicants respectfully submit that independent claim 1 is allowable for at least the reason that *Perlin* does not disclose, teach, or suggest at least "utilizing a model of the creature that comprises at least two portions: a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions: a first version for use in one of said different complexities of simulation; and a second version for use in the other of said different

complexities of simulation, wherein said first portion comprises a behavior selection mechanism arranged to select the behavior of said creature and said second portion is arranged to execute the selected behavior," as recited and emphasized above in claim 1.

Rather, *Perlin* describes a system for the creation of real-time, behavior-based animated actors. The system includes two subsystems: an Animated Engine and a Behavior Engine. In the system, "All communication between participant processes is done by continually sending and receiving programs around the network. . . . In an exemplary embodiment, each actor maintains a complete copy of the blackboard information for all actors. If an actor's behavior state changes between the beginning and end of a time step, the changes are routed to all other actors. . . . In an exemplary embodiment, the Behavior Engine and the Animation Engine for an actor can be split across a WAN. The Behavior and Animation Engines can communicate with each other through the blackboard. For the DOFs produced by the Animation Engine, the blackboard is allowed to contain different values at each LAN. For the states produced by the Behavior Engine, the actor maintains a single global blackboard." Col. 15, lines 34-67.

"Computationally, the Behavior Engine for each actor runs at only a single LAN, whereas the Animation Engine runs at each LAN. When two characters must physically coordinate with each other, they use the local versions of their DOFs. In this way, an actor is always in a single Behavioral State everywhere on the WAN, even though at each LAN he might appear to be in a slightly different position. In a sense, the actor has one mind, but multiple bodies." Col. 16, lines 1-8.

Accordingly, *Perlin* describes that actions of an actor on different LANs may not be completely in sync with one another, since each LAN has its own Animation Engine performing the actions. The Animation Engines are all at the same level of complexity in *Perlin* and are not used based on complexities of simulation. As such, *Perlin* does not disclose different complexities of simulation where a second portion of a model uses a first version for use in one complexity of simulation and a second version for use in another complexity of simulation. Rather, *Perlin* discloses that implementation of the

same action by two different Animation Engines may not be performed exactly the same, although they are at the same complexity level.

As a result, *Perlin* fails to teach or suggest "utilizing a model of the creature that comprises at least two portions: a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions: a first version for use in one of said different complexities of simulation; and a second version for use in the other of said different complexities of simulation," as recited in claim 1. For example, *Perlin* does not disclose the first portion comprising a behavior selection mechanism arranged to select the behavior of the creature and/or a second portion that is arranged to execute the selected behavior, as described in claim 1.

For at least these reasons, *Perlin* does not teach or suggest all of the features of claim 1, and the rejection of claim 1 should be withdrawn.

b. Claims 5-6 and 8

Because independent claim 1 is allowable over the cited art of record, dependent claims 3-6 and 8 (which depend from independent claim 1) are allowable as a matter of law for at least the reason that dependent claims 3-6 and 8 contain all the features of independent claim 1. For at least this reason, the rejections of claims 3-6 and 8 should be withdrawn.

c. Claim 9

As provided in independent claim 9, Applicants claim:

> A method of simulating activities of a plurality of creatures, the method comprising ***utilizing at least two modes of simulation***:
>
> ***a first mode arranged to simulate the activities of all of said creatures; and***
>
> ***a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first mode; wherein a model of a creature simulated in both modes of simulation comprises at least two portions:***
>
> ***a first portion which contains functions arranged for use in both of said modes of simulation; and***

a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode.

(Emphasis added).

Applicants respectfully submit that independent claim 9 is allowable for at least the reason that *Perlin* does not disclose, teach, or suggest at least "utilizing at least two modes of simulation: a first mode arranged to simulate the activities of all of said creatures; and a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first mode; wherein a model of a creature simulated in both modes of simulation comprises at least two portions: a first portion which contains functions arranged for use in both of said modes of simulation; and a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode," as emphasized above.

Rather, *Perlin* describes a system for the creation of real-time, behavior-based animated actors. The system includes two subsystems: an Animated Engine and a Behavior Engine. In the system, "All communication between participant processes is done by continually sending and receiving programs around the network. . . . In an exemplary embodiment, each actor maintains a complete copy of the blackboard information for all actors. If an actor's behavior state changes between the beginning and end of a time step, the changes are routed to all other actors. . . . In an exemplary embodiment, the Behavior Engine and the Animation Engine for an actor can be split across a WAN. The Behavior and Animation Engines can communicate with each other through the blackboard. For the DOFs produced by the Animation Engine, the blackboard is allowed to contain different values at each LAN. For the states produced by the Behavior Engine, the actor maintains a single global blackboard." Col. 15, lines 34-67.

"Computationally, the Behavior Engine for each actor runs at only a single LAN, whereas the Animation Engine runs at each LAN. When two characters must physically coordinate with each other, they use the local versions of their DOFs. In this way, an actor is always in a single Behavioral State everywhere on the WAN, even

though at each LAN he might appear to be in a slightly different position. In a sense, the actor has one mind, but multiple bodies." Col. 16, lines 1-8.

Accordingly, *Perlin* describes that actions of an actor on different LANs may not be completely in sync with one another, since each LAN has its own Animation Engine performing the actions. The Animation Engines are all at the same level of complexity in *Perlin* and are not used based on complexities of simulation. As such, *Perlin* does not disclose different complexities of simulation where a second portion of a model uses a first version for use in one complexity of simulation and a second version for use in another complexity of simulation. Rather, *Perlin* discloses that implementation of the same action by two different Animation Engines may not be performed exactly the same, although they are at the same complexity level.

As a result, *Perlin* fails to teach or suggest "utilizing at least two modes of simulation: a first mode arranged to simulate the activities of all of said creatures; and a second mode arranged to simulate an activity of at least one of said creatures at a more detailed level than said first mode; wherein a model of a creature simulated in both modes of simulation comprises at least two portions: a first portion which contains functions arranged for use in both of said modes of simulation; and a second portion comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode," as recited in claim 9.

For at least these reasons, *Perlin* does not teach or suggest all of the features of claim 9, and the rejection of claim 9 should be withdrawn.

d. Claim 10

As provided in independent claim 10, Applicants claim:

> A method of simulating a process at two different levels of complexity, the method comprising:
> ***utilizing a model that comprises at least two portions:***
> ***a first portion which contains functions for use in both of said different complexities of simulation; and***
> ***a second portion comprising two alternative versions:***
> ***a first version for use in one of said different complexities of simulation; and***
> ***a second version for use in the other of said different complexities of simulation, wherein the second version is for use in***

the less complex of the simulations, and is arranged to approximate the functionality of the first version.

(Emphasis added).

Applicants respectfully submit that independent claim 10 is allowable for at least the reason that *Perlin* does not disclose, teach, or suggest at least "utilizing a model that comprises at least two portions: a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions: a first version for use in one of said different complexities of simulation; and a second version for use in the other of said different complexities of simulation, wherein the second version is for use in the less complex of the simulations, and is arranged to approximate the functionality of the first version," as emphasized above.

Rather, *Perlin* describes a system for the creation of real-time, behavior-based animated actors. The system includes two subsystems: an Animated Engine and a Behavior Engine. In the system, "All communication between participant processes is done by continually sending and receiving programs around the network. . . . In an exemplary embodiment, each actor maintains a complete copy of the blackboard information for all actors. If an actor's behavior state changes between the beginning and end of a time step, the changes are routed to all other actors. . . . In an exemplary embodiment, the Behavior Engine and the Animation Engine for an actor can be split across a WAN. The Behavior and Animation Engines can communicate with each other through the blackboard. For the DOFs produced by the Animation Engine, the blackboard is allowed to contain different values at each LAN. For the states produced by the Behavior Engine, the actor maintains a single global blackboard." Col. 15, lines 34-67.

"Computationally, the Behavior Engine for each actor runs at only a single LAN, whereas the Animation Engine runs at each LAN. When two characters must physically coordinate with each other, they use the local versions of their DOFs. In this way, an actor is always in a single Behavioral State everywhere on the WAN, even though at each LAN he might appear to be in a slightly different position. In a sense, the actor has one mind, but multiple bodies." Col. 16, lines 1-8.

Accordingly, *Perlin* describes that actions of an actor on different LANs may not be completely in sync with one another, since each LAN has its own Animation Engine performing the actions. The Animation Engines are all at the same level of complexity in *Perlin* and are not used based on complexities of simulation. As such, *Perlin* does not disclose different complexities of simulation where a second portion of a model uses a first version for use in one complexity of simulation and a second version for use in another complexity of simulation. Rather, *Perlin* discloses that implementation of the same action by two different Animation Engines may not be performed exactly the same, although they are at the same complexity level.

As a result, *Perlin* fails to teach or suggest "utilizing a model that comprises at least two portions: a first portion which contains functions for use in both of said different complexities of simulation; and a second portion comprising two alternative versions: a first version for use in one of said different complexities of simulation; and a second version for use in the other of said different complexities of simulation," as recited in claim 10.

For at least these reasons, *Perlin* does not teach or suggest all of the features of claim 10, and the rejection of claim 10 should be withdrawn.

e. Claims 11 and 13

Because independent claim 10 is allowable over the cited art of record, dependent claims 11 and 13 (which depend from independent claim 10) are allowable as a matter of law for at least the reason that dependent claims 11 and 13 contain all the features of independent claim 10. For at least this reason, the rejections of claims 11 and 13 should be withdrawn.

f. Claim 14

As provided in independent claim 14, Applicants claim:

> A simulator device arranged to simulate a creature in two different complexities of simulation, ***the device being arranged to utilise a model of the creature that comprises at least two portions:***
>
> ***a first portion which contains functions used in both of said different complexities of simulation; and***

a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation.

(Emphasis added).

Applicants respectfully submit that independent claim 14 is allowable for at least the reason that *Perlin* does not disclose, teach, or suggest at least a "device being arranged to utilise a model of the creature that comprises at least two portions: a first portion which contains functions used in both of said different complexities of simulation; and a second portion comprising two alternative versions, a first version used in one of said different complexities of simulation, and second version used in the other of said different complexities of simulation," as recited and emphasized above in claim 14.

Rather, *Perlin* describes a system for the creation of real-time, behavior-based animated actors. The system includes two subsystems: an Animated Engine and a Behavior Engine. In the system, "All communication between participant processes is done by continually sending and receiving programs around the network. . . . In an exemplary embodiment, each actor maintains a complete copy of the blackboard information for all actors. If an actor's behavior state changes between the beginning and end of a time step, the changes are routed to all other actors. . . . In an exemplary embodiment, the Behavior Engine and the Animation Engine for an actor can be split across a WAN. The Behavior and Animation Engines can communicate with each other through the blackboard. For the DOFs produced by the Animation Engine, the blackboard is allowed to contain different values at each LAN. For the states produced by the Behavior Engine, the actor maintains a single global blackboard." Col. 15, lines 34-67.

"Computationally, the Behavior Engine for each actor runs at only a single LAN, whereas the Animation Engine runs at each LAN. When two characters must physically coordinate with each other, they use the local versions of their DOFs. In this way, an actor is always in a single Behavioral State everywhere on the WAN, even though at each LAN he might appear to be in a slightly different position. In a sense, the actor has one mind, but multiple bodies." Col. 16, lines 1-8.

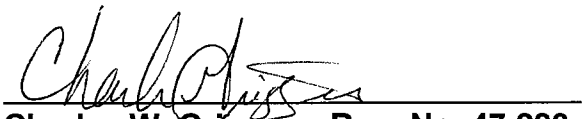
Accordingly, *Perlin* describes that actions of an actor on different LANs may not be completely in sync with one another, since each LAN has its own Animation Engine performing the actions. The Animation Engines are all at the same level of complexity in *Perlin* and are not used based on complexities of simulation. As such, *Perlin* does not disclose different complexities of simulation where a second portion of a model uses a first version for use in one complexity of simulation and a second version for use in another complexity of simulation. Rather, *Perlin* discloses that implementation of the same action by two different Animation Engines may not be performed exactly the same, although they are at the same complexity level.

For at least these reasons, *Perlin* does not teach or suggest all of the features of claim 14, and the rejection of claim 14 should be withdrawn.

CONCLUSION

For at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,



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